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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/065,728	11/13/2002	Brock Osborn	040849-0215	6165

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GENERAL ELECTRIC COMPANY
GLOBAL RESEARCH
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NISKAYUNA, NY 12309

EXAMINER	
FERRIS III, FRED O	
ART UNIT	**PAPER NUMBER**
2128	

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
3 MONTHS	03/16/2007	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary	Application No.	Applicant(s)	
	10/065,728	OSBORN ET AL.	
	Examiner	Art Unit	
	Fred Ferris	2128	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *12 January 2007*.

2a)☒ This action is **FINAL**. 2b)☐ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *13 November 2002* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

1. This Office Action is responsive to applicants' amendment filed 12 January 2007. Claims 1-21 remain pending in this application and stand rejected by the examiner.

Response to Arguments

2. Applicant's amendment and supporting arguments filed 12 January 2007 have been fully considered but they are not persuasive.

Prior art rejections: The main thrust of applicant's arguments center around arguing that the prior art does not disclose the newly amended feature relating to "discerning from the data that at least one parameter represented in the collected data affects system performance which parameter was previously unknown or unconfirmed to affect system performance". Applicants believe that this amended feature has distinguished the claimed invention over the prior art. The examiner disagrees based on the following reasoning. First, the recitation as amended is somewhat awkward and appears ambiguous since it is unclear if applicants intend the limitation to mean discerning from the collected data a (new) parameter that affects performance (e.g. a new parameter above or below a given threshold), or simply discerning any parameter that has not already been detected by the SSA. As such, the examiner again refers to applicants' specification for guidance on the specific meaning of discerning from data unknown or unconfirmed parameters. The specification [0018] revels the following:

> "[0018] In step 210, the data processor 130 discerns at least one parameter affecting system performance from the data collected by the sensor 120. In other words, step 210 preferably actively discerns at least one parameter which was previously unknown or unconfirmed. Thus, for example, if the operating

temperature of the equipment 110 is being monitored to prevent the operating temperature to rise above a maximum allowed operating temperature, the data processor 130 in step 210 may discern that an operating temperature below the maximum allowed operating temperature can still lead to accelerated equipment 110 failure. In such a situation, the data processor 130 can be said to have discerned a new parameter affecting system performance, even though this parameter was previously being monitored for some other reason. Hence, it should be appreciated that the term "discern" requires more than monitoring of a predetermined operating variable."

While there is no clear definition, it appears from the passages above that "discerning" merely requires monitoring parameters over a given range, and above or below a given threshold. Specifically, in the example recited above relating to temperature sensing, it appears that discerning at least one parameter which was previously unknown or unconfirmed, simply consists of monitoring a system performance parameter within a range of temperature values. (e.g. monitoring an operating temperature below the maximum allowed, as noted above) Obviously, temperature affects system performance. The examiner submits that any system using Smart transducers, or NCAP modules which incorporates a memory, and a processor, inherently has the ability to determine if a parameter was previously unknown or unconfirmed from gathered data. Prior art Eryurek, for example, anticipates this feature by disclosing determining both known and unknown (not known) operating conditions (CL9-L17-30) by monitoring sensitivity parameter values and trained parameter values (e.g. parameters affecting system performance from gathered data, Figs. 2, 6). This feature is also rendered obvious by the combination of Warrior and Dicenzo as noted below since Dicnenzo teaches determining (discerning) if parameters monitored are within or outside of known operating condition ranges (CL5-L10-29).

The examiner therefor maintains the 103(a)/102(e) rejection as anticipated by Eryurek, and the 103(a) rejection as obvious over Warrior in view of Dicenzo.

Based on the multiple interpretations of the amended claim limitations noted above, the examiner has now rejected 1, 9, 13, 19, and 21 under 102/103 as being anticipated by, or in the alternative, obvious in view of Eryurek. (See new 102/103 rejection below)

Preamble of the Claims

3. The preambles of independent claims 1, 9, 13, and 19 as presented for examination, have not been given patentable weight. Appropriate weight is given to limitations recited in the body of the claim that are needed for purpose of antecedence. "A mere statement of purpose or intended use in the preamble of a claim need not be considered in finding anticipation; however, it must be considered if the language of a preamble is necessary to give meaning to the claim" Diversitech Corp. v. Century Steps, Inc., 7 USPQ2d 1315 (Fed. Cir. 1988); In re Stencel, 4 USPQ2d 1071 (Fed. Cir. 1987)

Claims Interpretation

4. Applicants are disclosing a method and system for analyzing the performance of a system inclusive of a system statistical associate (SSA) for collecting data relating to operating system variables affecting the performance of the system and generating a report. Based on applicants disclosure, the examiner has interpreted the term "system statistical associate (SSA)" to simply be a sensor module with a data processor and

communications channel used for monitoring equipment performance parameters (such as temperature) and generating a data report. The examiner notes that these broadly claimed SSA elements included in independent claims 1, 9, 13, and 19 are generally standard features available in commercially available control monitoring equipment from vendors such as Esensor, TeleMonitor, or National Instruments. These modules are known in the industry as "smart transducers" or "NCAP modules" and defined as standard networked sensor modules in IEEE Standard 1451.

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

> The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 1-21 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Specifically, independent claims 1, 9, 13, and 19 now include limitations relating to "discerning from the data that at least one parameter represented in the collected data affects system performance which parameter was previously unknown or unconfirmed to affect system performance" that appears to be ambiguous. In this instance, it is unclear what the specific meaning of the limitation is, and what the intended metes and bounds of the claim actually are. For example, do applicants intend the limitation to mean discerning from the collected data a (new) parameter that affects performance (e.g. a new parameter above or below a given threshold), or simply

discerning any parameter that has not already been detected (e.g. collected by the SSA). Dependent claims inherit the defect of the claims from which they depend.

Claim Rejections - 35 USC § 102/103

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1, 9, 13, 19, and 21 are rejected under 35 U.S.C. 102(e) as being clearly anticipated by, or in the alternative, under 35 U.S.C. 103(a) as obvious in view of US Patent 6,539,267 issued to Eryurek et al.

Regarding claims 1, 9, 13, 19, and 21: Eryurek teaches a method and system for analyzing system performance via a smart module (SSA equivalent) inclusive of capabilities for collecting data on system operating variables (Abstract, Figs. 1, 2), discerning data parameters affecting system performance (CL1_L50-CL2_L9) from the data, and generating a report (data log) on the parameters via embedded sensors (Figs. 1, 2, Abstract, CL2_L30-, CL3_35) monitoring (collecting) device parameters, a data processor (Figs. 1, 2, Abstract) capable of affecting monitored device performance, and a data parameter transmitter (Figs. 1, 2).

In the alternative, claims 1, 9, 13, 19, and 21 are rejected under 35 U.S.C. 103(a) as being obvious in view of US Patent 6,539,267 issued to Eryurek et al.

As noted above, the limitation relating to "discerning from the data that at least one parameter represented in the collected data affects system performance which parameter was previously unknown or unconfirmed to affect system performance" appears to be ambiguous. In this instance, it is unclear if applicants intend the limitation to mean discerning from the collected data a (new) parameter that affects performance (e.g. a new parameter above or below a given threshold), or simply discerning any parameter that has not already been detected by the SSA. From applicants' specification, it appears that discerning at least one parameter which was previously unknown or unconfirmed, simply consists of monitoring a system performance parameter within a range of temperature values. (e.g. monitoring an operating temperature below the maximum allowed, as noted above, paragraph [0018]) Obviously, temperature affects system performance. The examiner submits that any system using Smart transducers, or NCAP modules which incorporates a memory, and a processor, has the ability to determine if a parameter was previously unknown or unconfirmed from gathered data. Prior art Eryurek, renders this feature obvious by disclosing determining both known and unknown (not known) operating conditions (CL9-L17-30) by monitoring sensitivity parameter values and trained parameter values (e.g. parameters affecting system performance from gathered data, Figs. 2, 6). Hence a skilled artisan having access to the teachings of Eryurek would have knowingly implemented a by collecting data (e.g. gathering data to a NACP module memory) effecting system performance and determining (discerning) which of the parameters

were unknown or unconfirmed as a method of monitoring parameters above or below a given threshold.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

7. Claims 2-8, 10-12, 14-18 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over "IEEE-P1451 Network Capable Application Processor Information Model", J. Warrior, IEEE-P1451.1 Working Group, IEEE 1996 in view of US Patent 6,847,854 issued to Dicenzo.

Warrior renders obvious method and system elements of claims 1, 9, 13, 19, and 21 relating to analyzing system performance via a smart module (NCAP: SSA equivalent) inclusive of capabilities for collecting data on system operating variables (Figs. 1, 2, Sec. 5.0-7.3), discerning data parameters affecting system performance

(Figs. 2, 3, Sec. 4.0-8.4.2.2) from the data, and generating a report (data log) on the parameters via embedded sensors (Sec. Fig. 3, 7.4-8.1) monitoring device parameters, a data processor (Fig. 1, Sec. 2.0) capable of affecting monitored device performance, and a data parameter transmitter (Sec. 7.4-8.1).

Warrior does not explicitly disclose the elements relating to generating, communicating, and correlating a data profile of parameters, a lifetime model, or that operating variables include parameters such as temperature, load, humidity, and vibration.

Per claims 2-6, 8, 10, 11, 14-16, and 20: Discenzo teaches collecting data on system operating variables (CL9_L39-46) which affect system performance and reliability by discerning data parameters affecting system performance (CL10_L26-53) data, generating a report (CL31_L18-19, i.e. status) on the parameters via embedded sensors (Figs. 9-11, 18, CL5_L60-67) monitoring device parameters, a data processor (Figs. 6, 7, CL24_L21-45) capable of affecting monitored device performance, and a data parameter transmitter (CL30_L3-19, CL31_L63-CL32_L39, CL34_L41-CL6_65, Figs. 15-19). More importantly Discenzo further teaches the use of a life expectancy models (CL15_L60, i.e. a lifetime model), generating and communicating a resulting data profile (CL16_16, Figs. 2, 12-15) and correlating the representative profiles and parameter (CL26_L52-55, CL29_54-57, CL30_L3-19)) Dicnenzo further teaches determining (discerning) if parameters monitored parameters are within or outside of known operating condition ranges (CL5-L10-29).

Per claims 7, 12, 17, and 18: Discenzo further discloses that the sensors detect operating variables including parameters such as temperature, load, humidity, and vibration (CL38_L59-63, CL39_53-61) and optimizing (automatically changing) parameters to improve performance (CL5_L25-29, CL9_L17-45, CL39_53-CL40_18, especially CL40_L11-13).

It would have been obvious to one having ordinary skill in the art at the time the claimed invention was made to modify the teachings of Warrior relating to analyzing system performance via a smart module (SSA equivalent), with the teachings of Discenzo relating to life expectancy models, and generating, communicating, and correlating representative data profiles, to realize the elements of the claimed invention. An obvious motivation exists since, as referenced in the prior art, the use of intelligent (smart) sensor technology improves the diagnostic and optimization process associated with enhanced system reliability. (See: Discenzo, CL9_L39-45, CL12_L11). Accordingly, a skilled artisan tasked with realizing a system and method for analyzing and optimizing the performance of a monitored system, and having access to the teachings of Warrior and Discenzo, would have knowingly modified the teachings of Warrior with the teachings of Discenzo (or visa versa) to realize the claimed elements of the present invention.

Conclusion

8. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, ***THIS ACTION IS MADE FINAL****. See MPEP*

§ 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Fred Ferris whose telephone number is 571-272-3778 and whose normal working hours are 8:30am to 5:00pm Monday to Friday. Any inquiry of a general nature relating to the status of this application should be directed to the group receptionist whose telephone number is 571-272-3700. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Kamini Shah can be reached at 571-272-2279. The Official Fax Number is: (571) 272 8300.

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